

Fig. 1

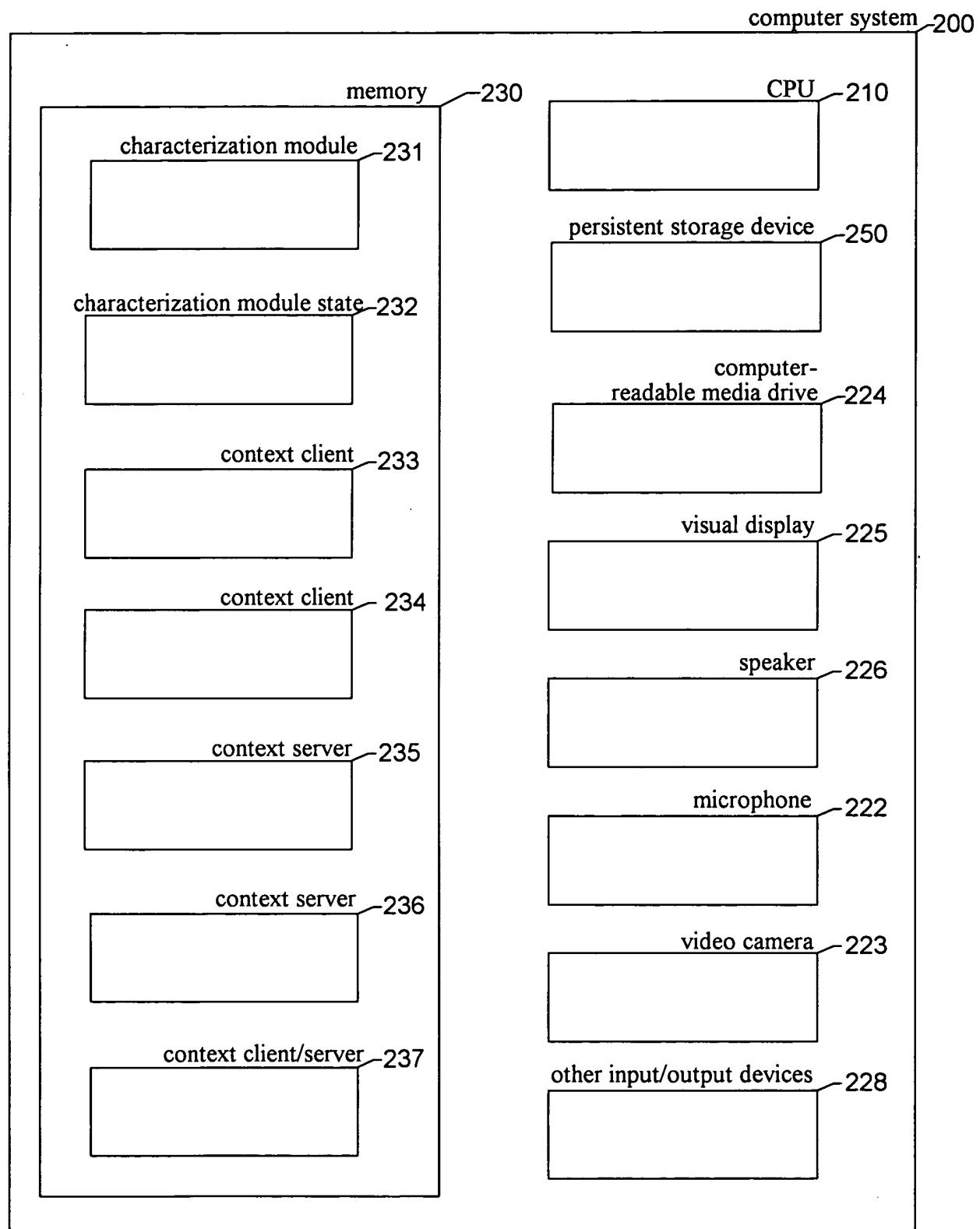


Fig. 2

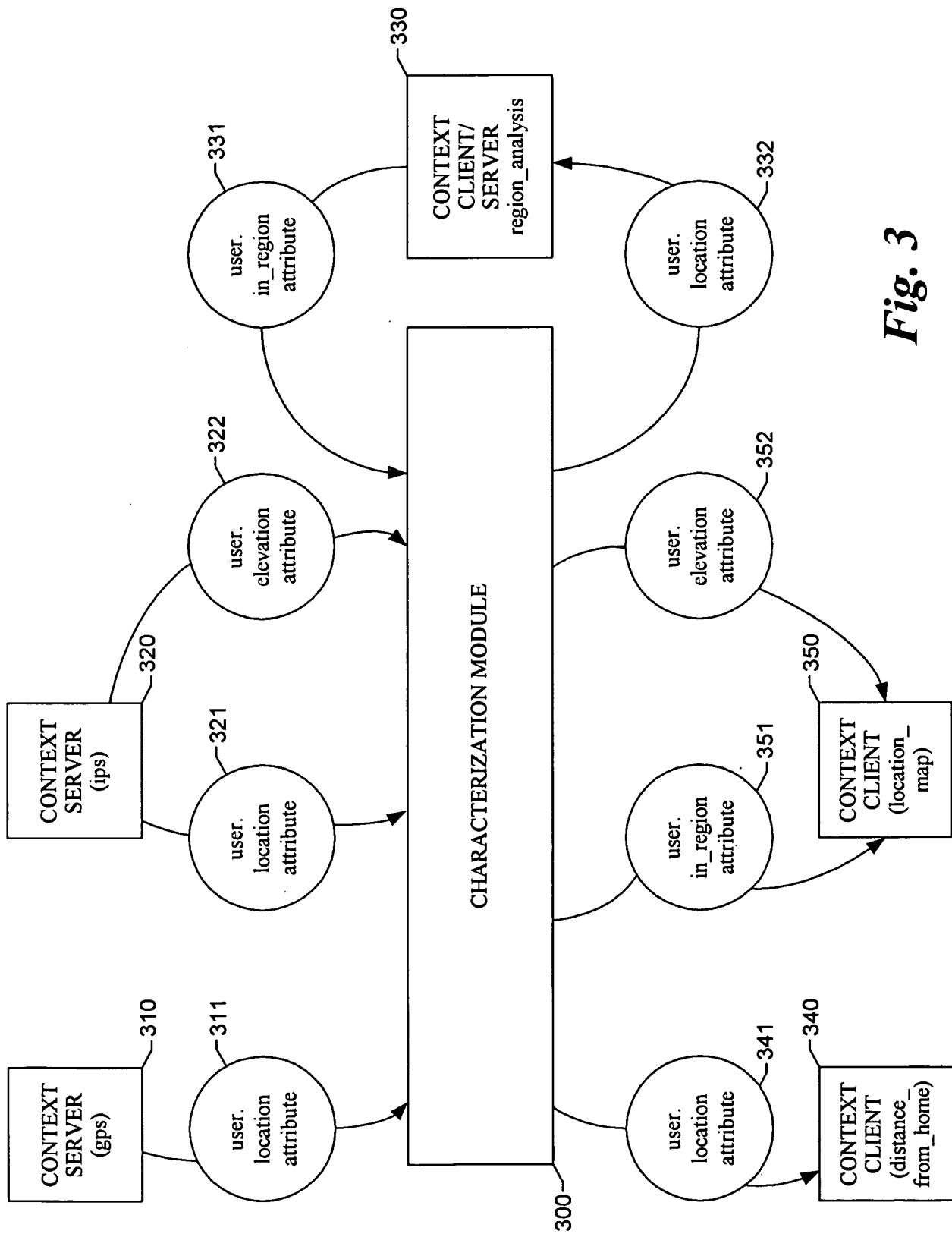


Fig. 3

context server name	version	installation date	filename	request handler
401 gps	1	2/10/2000	gps.exe	(reference)
402 ips	1	2/21/2000	ips.exe	(reference)
403 location_region_analysis	1	2/10/2000	l_r_a.exe	(reference)

Fig. 4

attribute name	context server name	value	uncertainty	timestamp	units	number of context clients consuming
501 user.location	gps	47° 38.73' N, 122° 18.43' W	0° .09'	13:11:04.023 2/22/2000	degrees/minutes	2
502 user.location	ips	47° 38.745' N, 122° 18.424' W	0° .021'	13:11:01.118 2/22/2000	degrees/minutes	2
503 user.elevation	ips	22	.5	13:11:01.118 2/22/2000	meters	1
504 user.in_region	location_region_analysis	none	none	none	none	0

Fig. 5

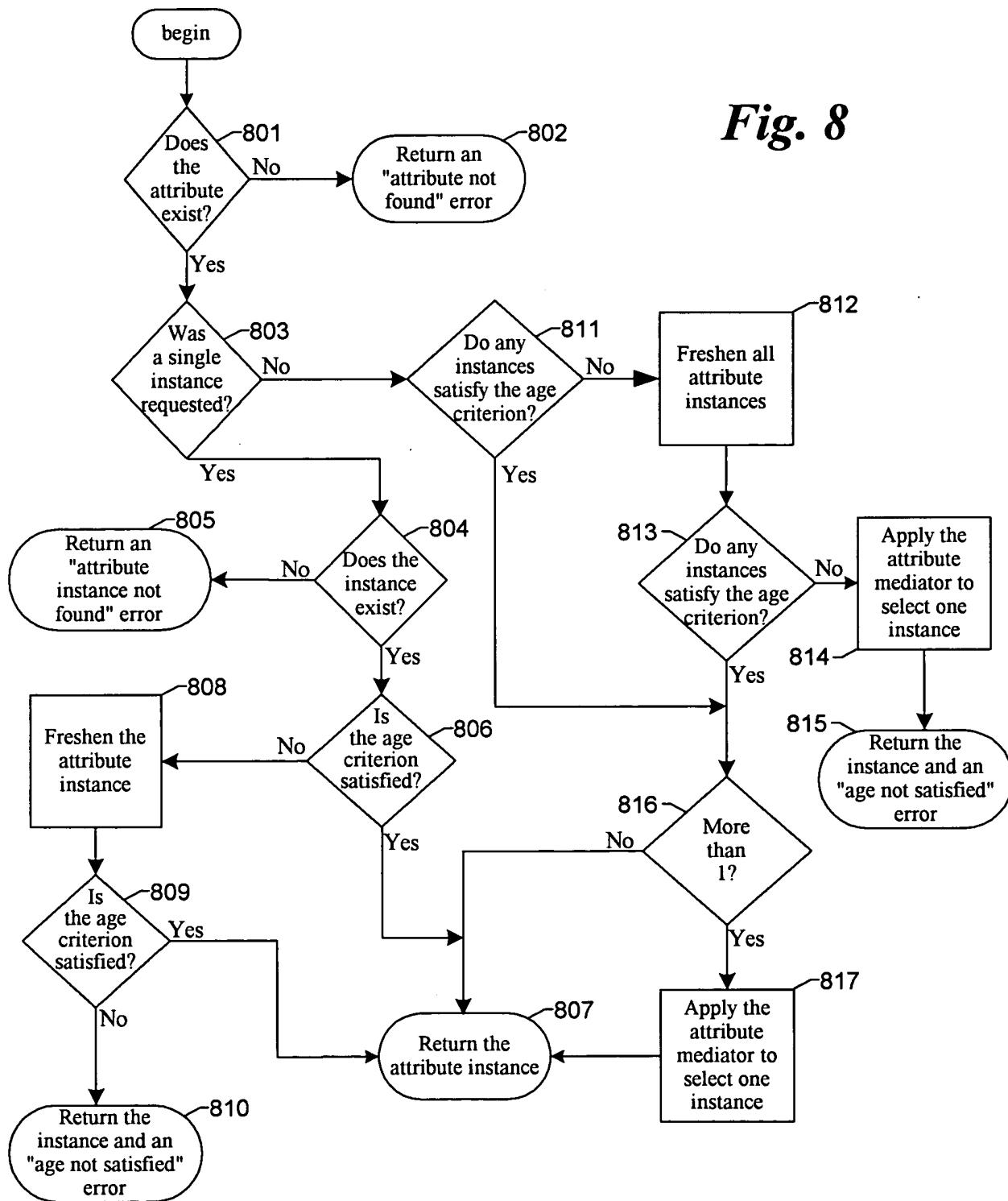
600	context client name	message handler
601	location_map	(reference)
602	distance_from_home	(reference)
603	region_analysis	(reference)
		611
		612

Fig. 6

700	attribute name	context server name	value	uncertainty	timestamp	units	number of context clients consuming
701	user.location	gps	47° 38.73' N, 122° 18.43' W	0° .09'	13:11:04.023 2/22/2000	degrees/minutes	2
702	user.location	ips	47° 38.745' N, 122° 18.424' W	0° .021'	13:11:01.118 2/22/2000	degrees/minutes	2
703	user.elevation	ips	22	.5	13:11:01.118 2/22/2000	meters	1
704	user.in_region_analysis	location_region_analysis	none	none	none	none	1
			711	712	713	714	715
					716	717	

Fig. 7

Fig. 8



attribute instance table

attribute name	context server name	value	uncertainty	timestamp	units	number of context clients consuming
user.location	gps	47° 38.73' N, 122° 18.43' W	0° .09'	13:11:04.023 2/22/2000	degrees/minutes	2
user.location	ips	47° 38.745' N, 122° 18.424' W	0° .021'	13:11:01.118 2/22/2000	degrees/minutes	2
user.elevation	ips	22.25	.5	13:11:06.565 2/22/2000	meters	1
user.in_region	region_analysis	none	none	none	none	1

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Fig. 9

condition table

condition name	context client name	first logical parameter	second logical parameter	comparison value	logical operator
in_region_true	region_analysis	user.in_region	none	TRUE	=
1001	1011	1012	1013	1014	1015
1000					1016

1000

1001

Fig. 10

condition monitor table						
condition monitor name	context client name	condition name	behavior	frequency	condition last evaluated	trigger handler reference
region_boundary_crossed	region_analysis	in_region_true	TRUE or FALSE	30	13:11:29.101 2/22/2000	(reference)
1101	1111	1112	1113	1114	1115	1116
1100					1117	1118

Fig. 11

condition monitor table						
condition monitor name	context client name	condition name	behavior	frequency	condition last evaluated	trigger handler reference
region_boundary_crossed	region_analysis	in_region_true	TRUE or FALSE	30	13:11:59.101 2/22/2000	(reference)
1201	1211	1212	1213	1214	1215	1216
1200					1217	1218

Fig. 12

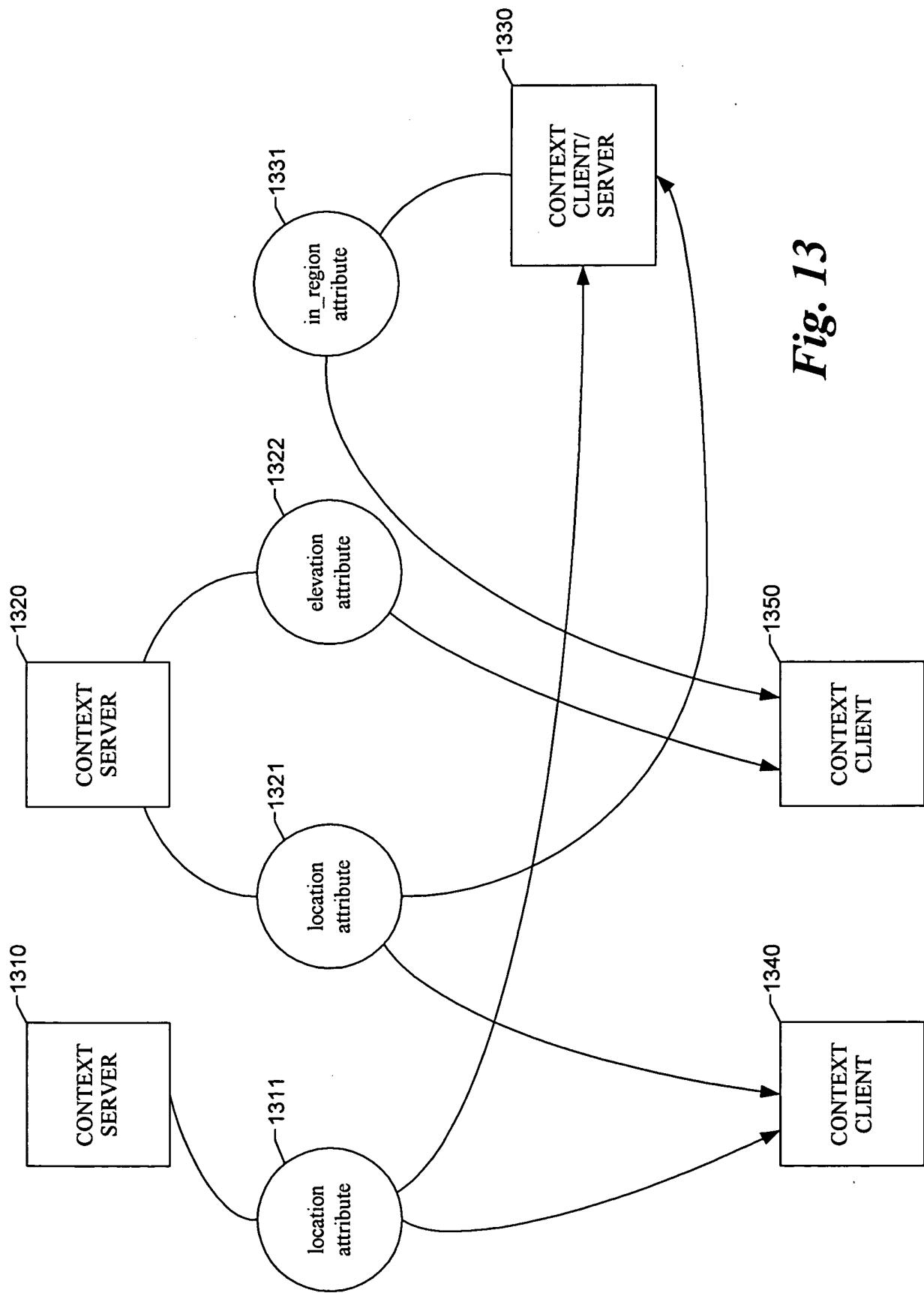


Fig. 13

attribute request table		
	attribute name	context client name
1401	user.location	distance_from_home
1402	user.in_region	location_map
1403	user.location [gps]	location_region_analysis
1404	user.elevation	location_map

Fig. 14

User.	Platform. (continued)
Desired_privacy_level	CPU.
Interruptibility	Load
Speed	Speed
Direction	Memory.
Acceleration	Total_capacity
Availability.	Used
Cognitive_availability	Storage.
Tactile_availability	Total_capacity
Manual_availability	Used
Visual_availability	Connectivity.
Oral_availability	Connection_status
Auditory_availability	Connection_speed
Proximity.<Item or place name>	Connection_type/device
Mood.	Connection_activity
Happiness	Power.
Sadness	Power_source
Anger	Power_level
Frustration	Environment.
Confusion	People.
Activity.	Nearest
Driving	Number_present
Eating	Number_close
Running	Local.
Sleeping	Time
Talking	Date
Typing	Temperature
Walking	Pressure
Location.	Wind_speed
Place_name	Wind_direction
Latitude	Absolute_humidity
Longitude	High_forecast_temperature
Altitude	Low_forecast_temperature
Room	People_present
Floor	Ambient_noise_level
Building	Ambient_light_level
Address	Days.<previous or future>.
Street	High_temperature
City	Low_temperature
County	Precipitation_type
State	Precipitation_amount
Country	Place.<place name>. (same as Environment.Local)
Postal_Code	
Destination. (same as User.Location.)	Application.
Physiology.	Mail.
Pulse	Available
Body_temperature	New_messages_waiting
Blood_pressure	Messages_waiting_to_be_sent
Respiration	
Person.<name or ID>. (same as User.)	Phone.
Platform.	Available
UI.	In_use
Oral_input_device_availability	On/off
Manual_input_device_availability	Notification_mechanism
Tactile_output_device_availability	Call_incoming
Visual_output_device_availability	Caller_ID
Auditory_output_device_availability	Sound_recorder.
	Available
	Recording

Fig. 15

Fig. 16

- 1) User Setting
 - a) Mental Context
 - i) Meaning
 - ii) Cognition
 - (1) Divided User Attention
 - (2) Task Switching
 - (3) Background Awareness
 - iii) Solitude
 - iv) Privacy
 - (1) Desired Privacy
 - (2) Perceived Privacy
 - v) Social Context
 - vi) Affect
 - b) Physical Situation
 - i) Body
 - (1) Biometrics
 - (2) Posture
 - (3) Motion
 - (4) Physical Encumbrment
 - (a) Senses
 - (i) Eyes
 - (ii) Ears
 - (iii) Tactile
 - (iv) Hands
 - (v) Nose
 - (vi) Tongue
 - (b) Workload demands/effects
 - (c) Interaction with computer devices
 - (d) Interaction with people
 - (e) Physical Health
 - ii) Environment
 - (1) Time/Space
 - (2) Objects
 - (3) Persons
 - (a) Audience/Privacy Availability
 - (i) Scope of Disclosure
 - (ii) Hardware affinity for privacy
 - (iii) Privacy Indicator for User
 - (iv) Privacy Indicator for Public
 - (v) Watching Indicator
 - (vi) Being Observed Indicator
 - (4) Ambient Interference
 - (a) Visual
 - (b) Audio
 - (c) Tactile
 - 2) Computer
 - a) Power
 - b) Configuration
 - i) User Input Systems
 - (1) Hand/Haptic
 - (a) Keyboard/Keystrokes
 - (2) Voice/Audio
 - (3) Eye Tracking
 - (4) Cursors
 - (a) Axis
 - (b) Resolution
 - (i) Selection
 - (ii) Invocation
 - (c) Accelerators
 - ii) Output Systems
 - (1) Visual
 - (a) Resolution
 - (2) Audio
 - (a) Public/Private
 - (3) Haptic
 - iii) External Resources
 - (1) I/O devices
 - (2) Connectivity
 - c) Data
 - i) Quantity/State
 - ii) Urgency/Importance
 - (1) Use of Prominence
 - iii) Modality
 - iv) Sensitivity/Purpose
 - (1) Privacy Issues
 - (2) Use of Association
 - (3) Use of Safety
 - v) Source/Ownership
 - (1) Types
 - (a) User generated
 - (b) Other computers or people
 - (c) Sensor
 - (d) PC State
 - (2) Use of Association

Fig. 17

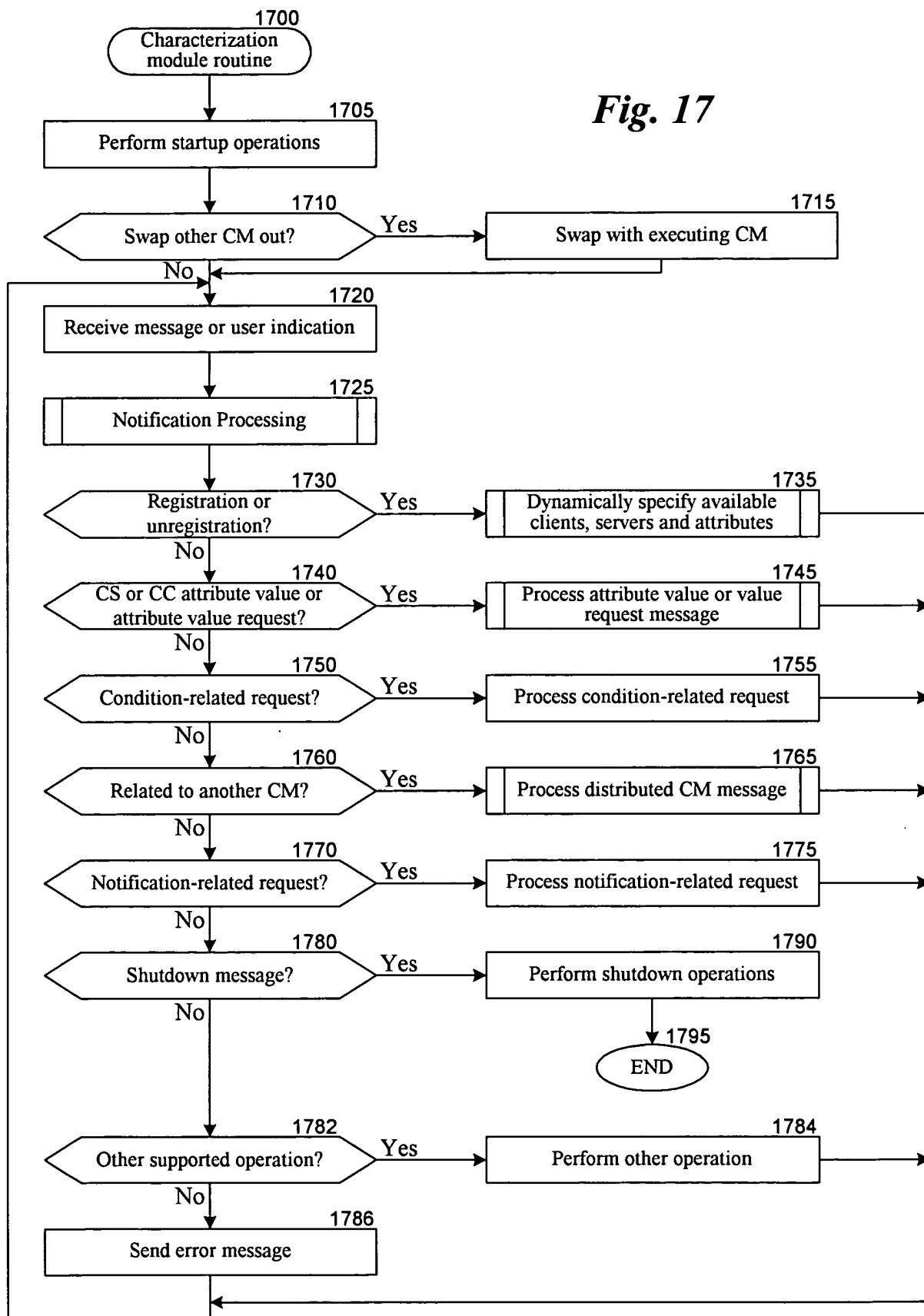
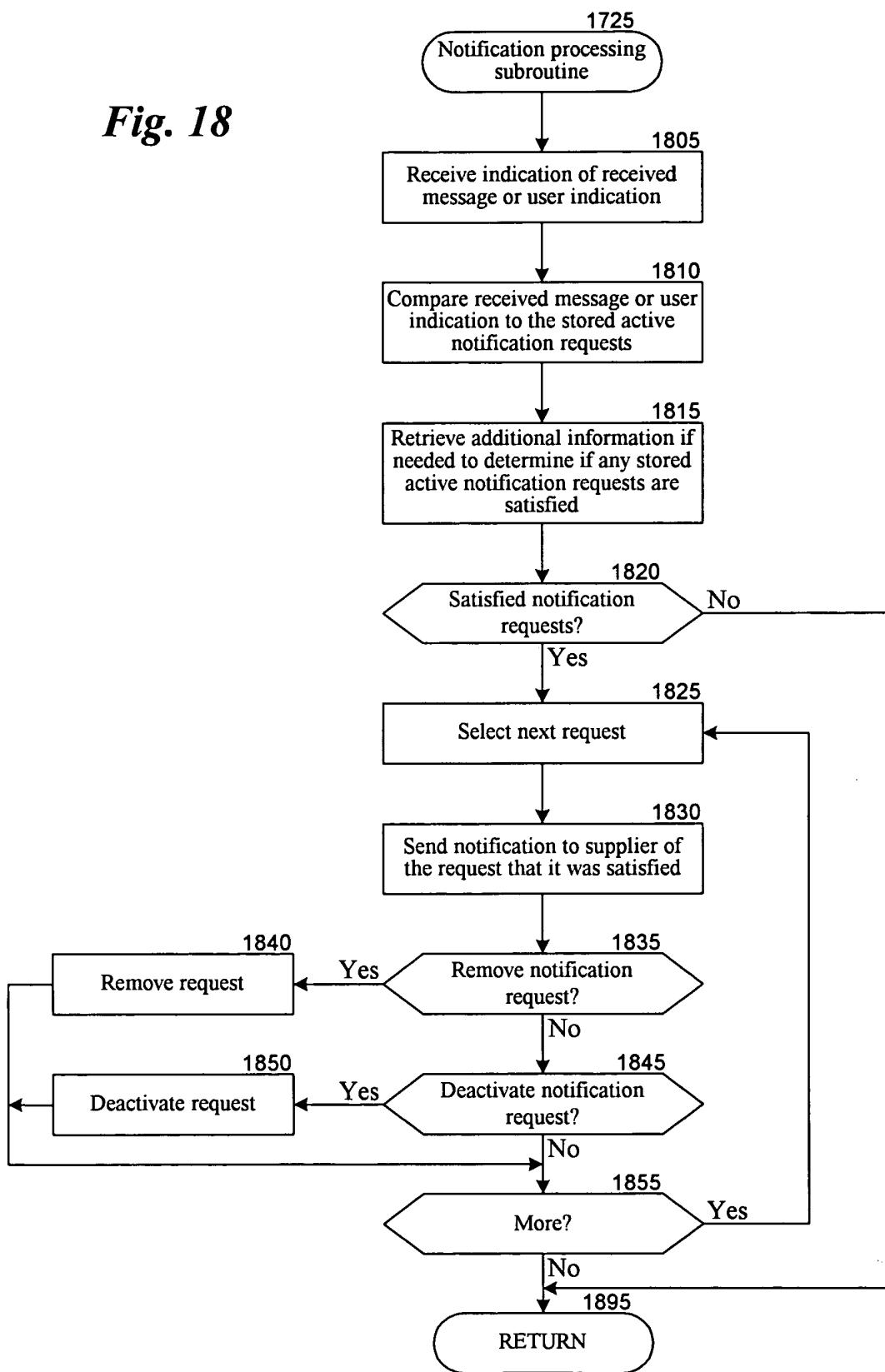


Fig. 18



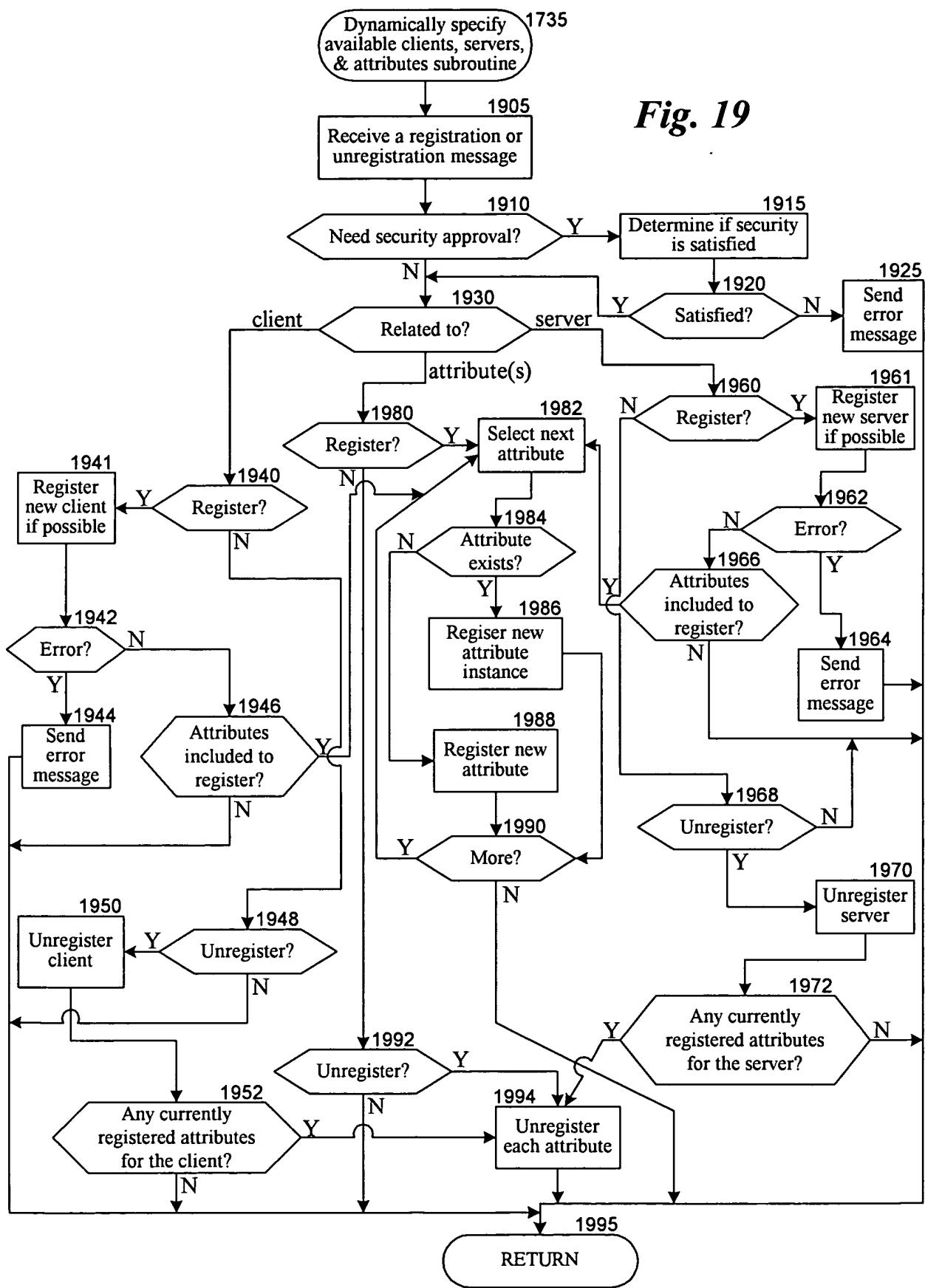


Fig. 20A

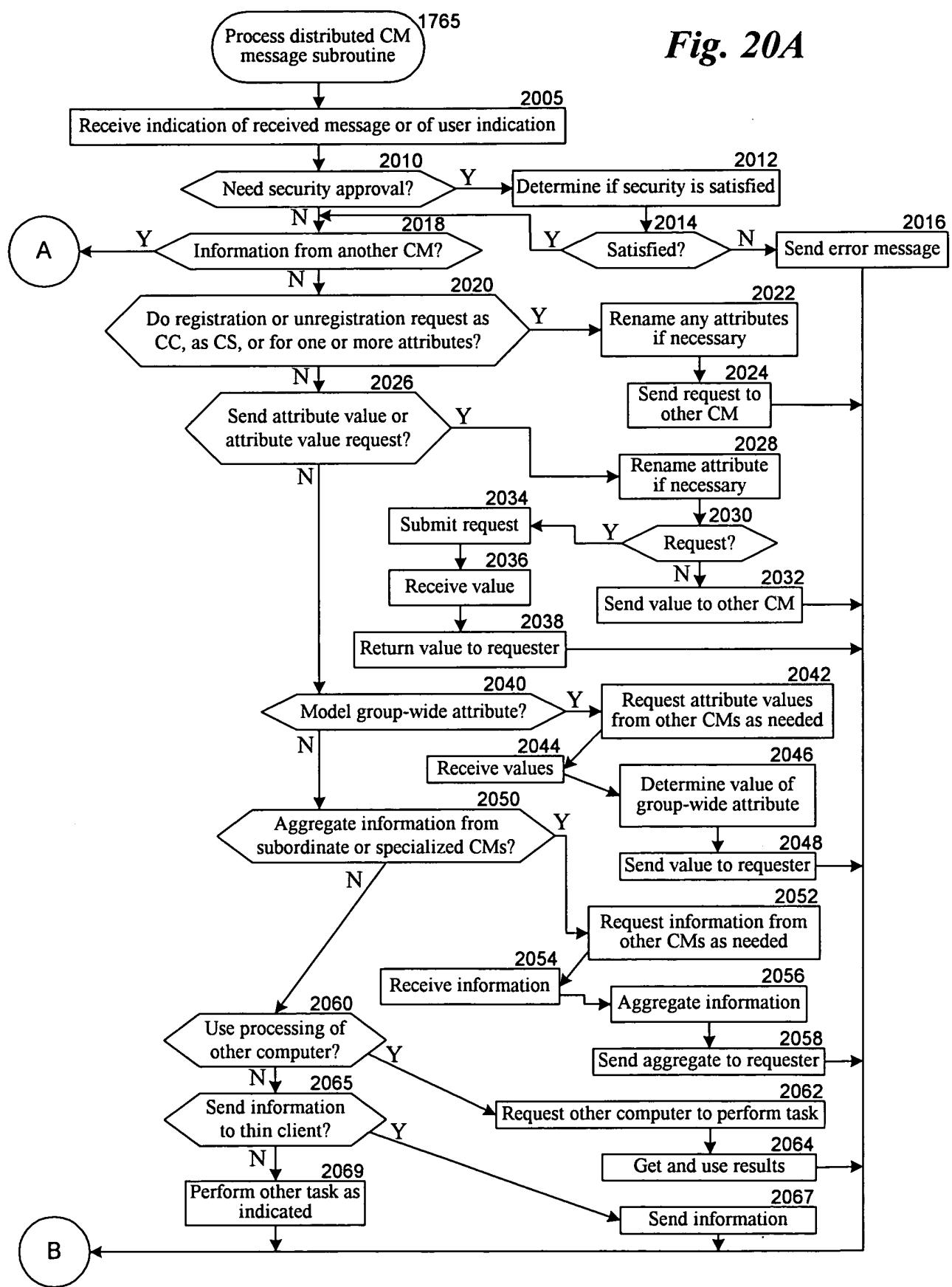


Fig. 20B

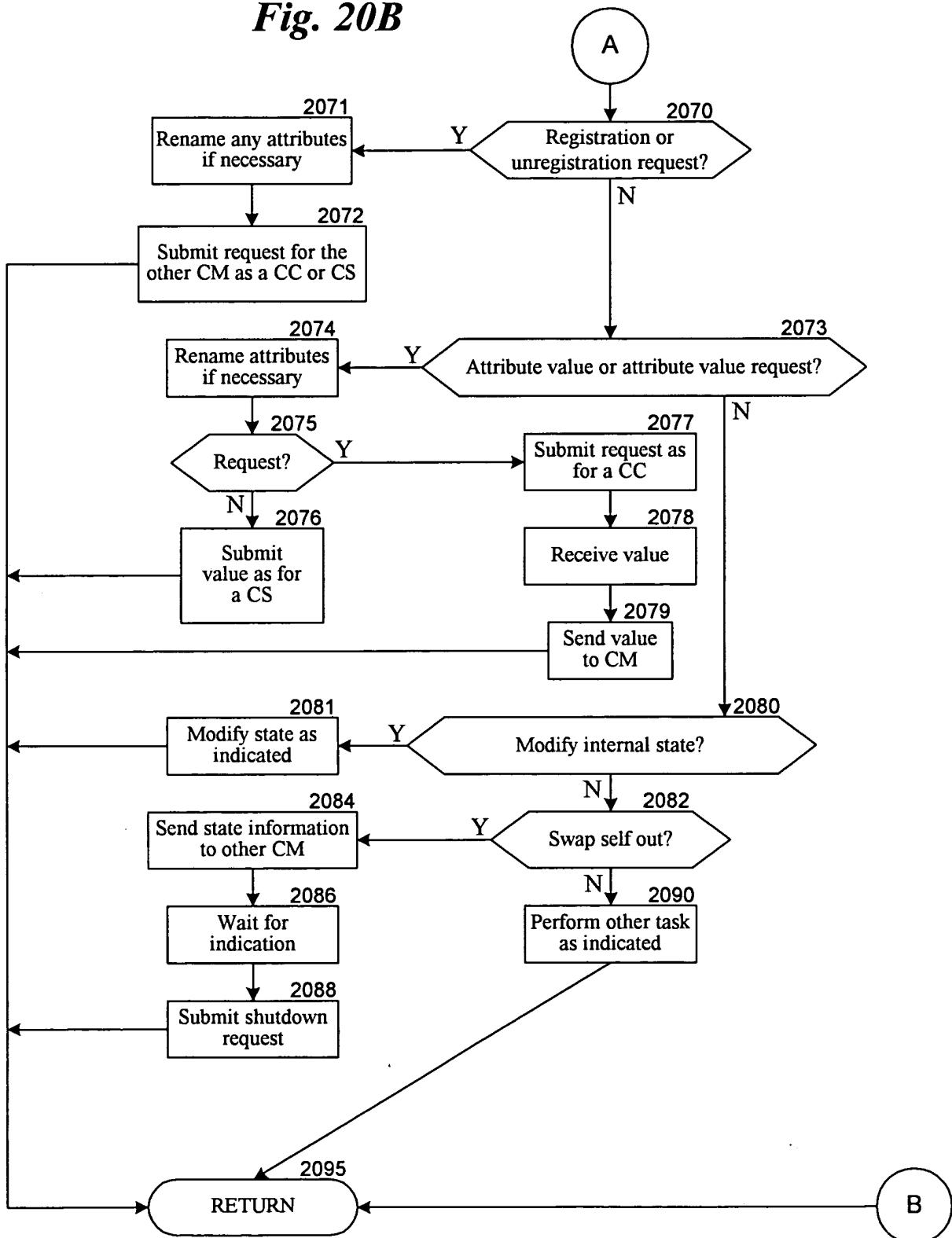


Fig. 21

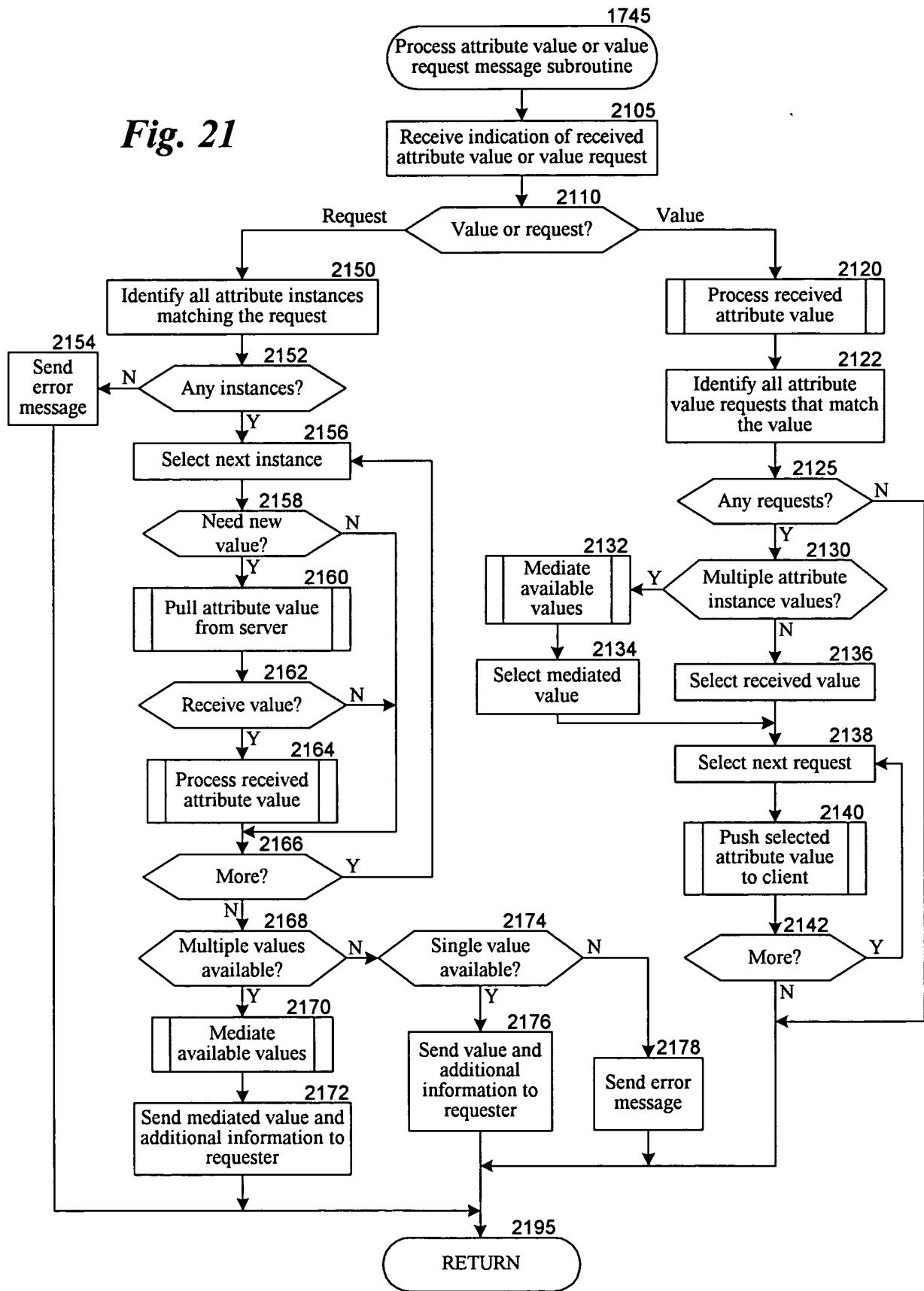


Fig. 22

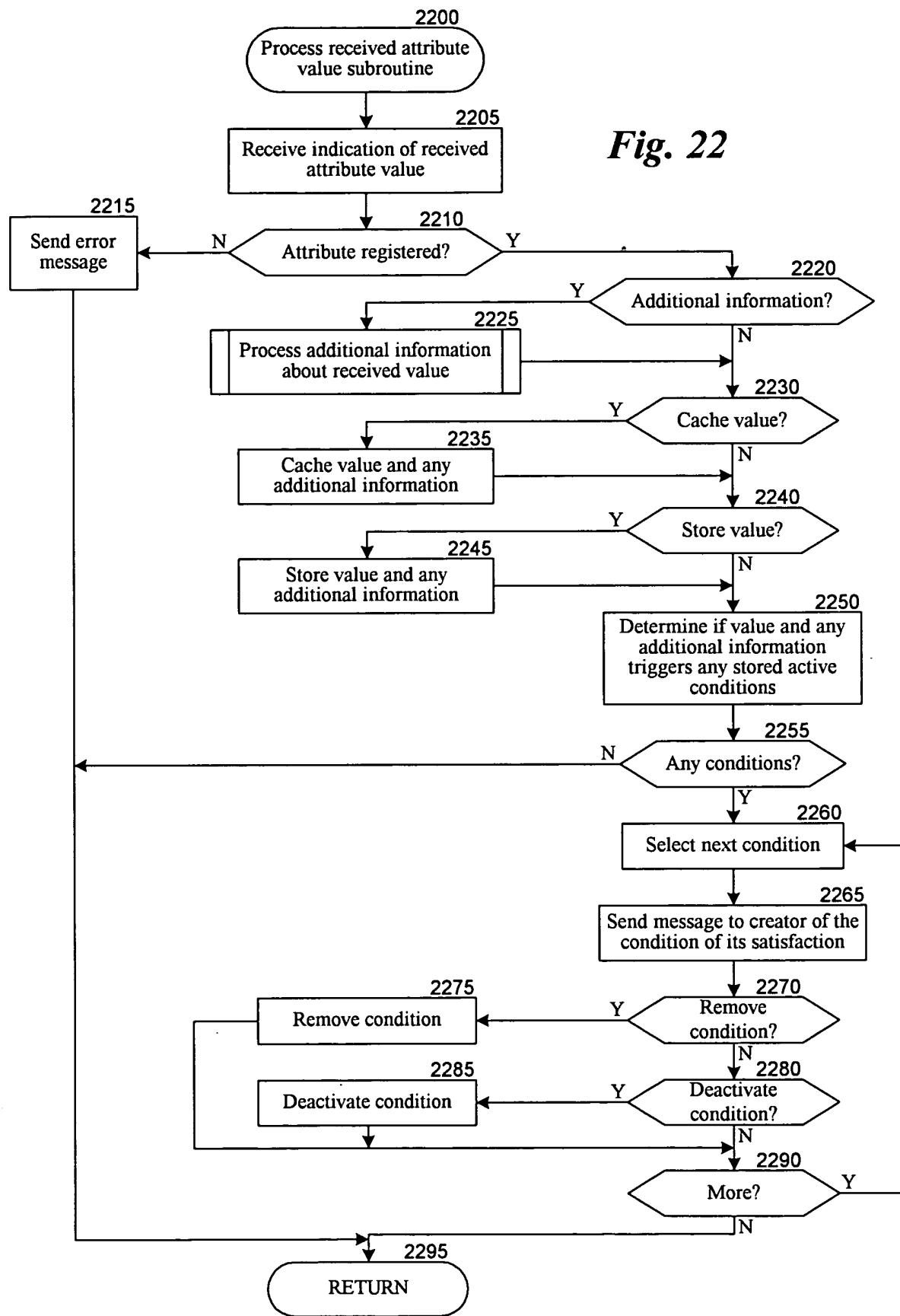


Fig. 23

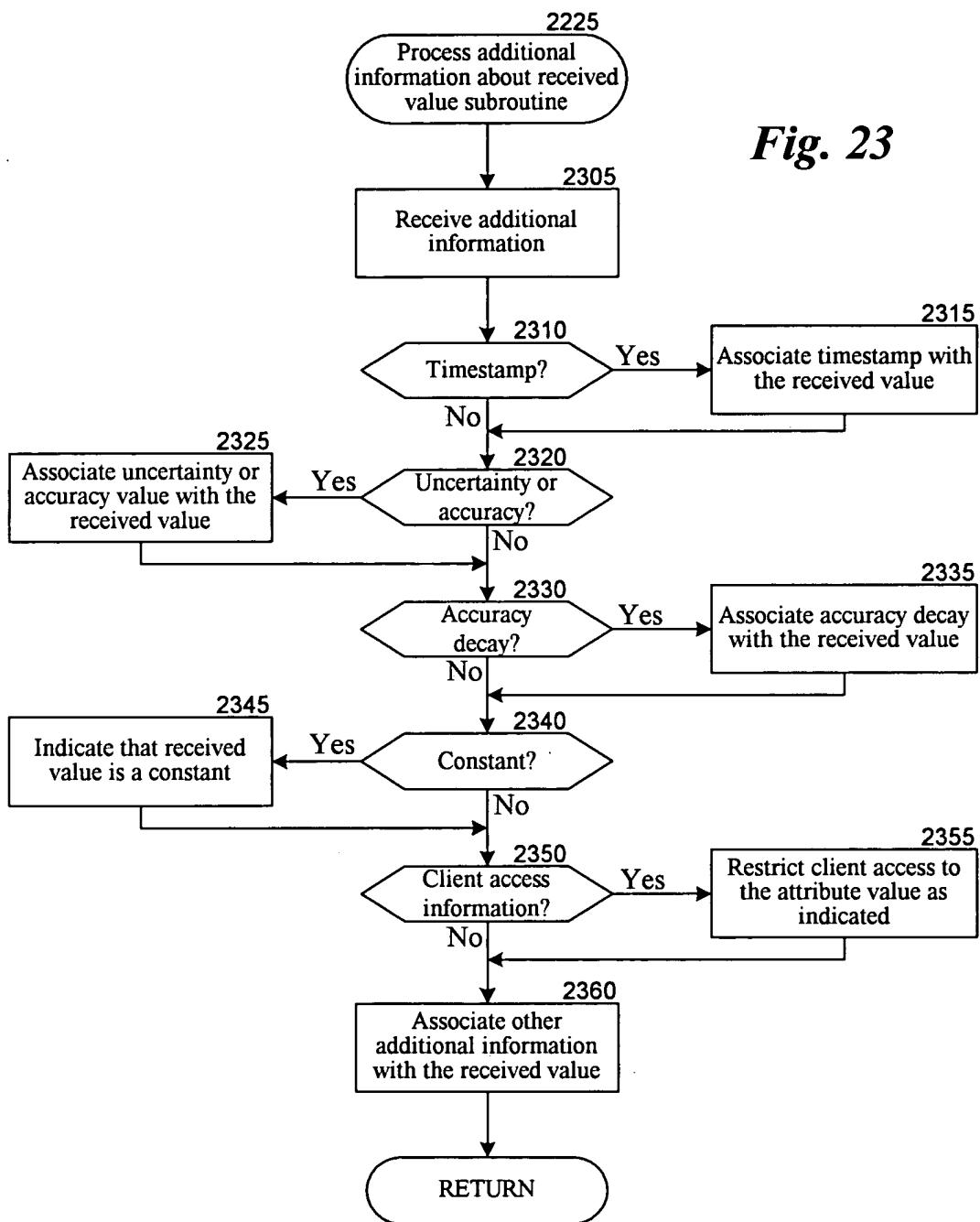


Fig. 24

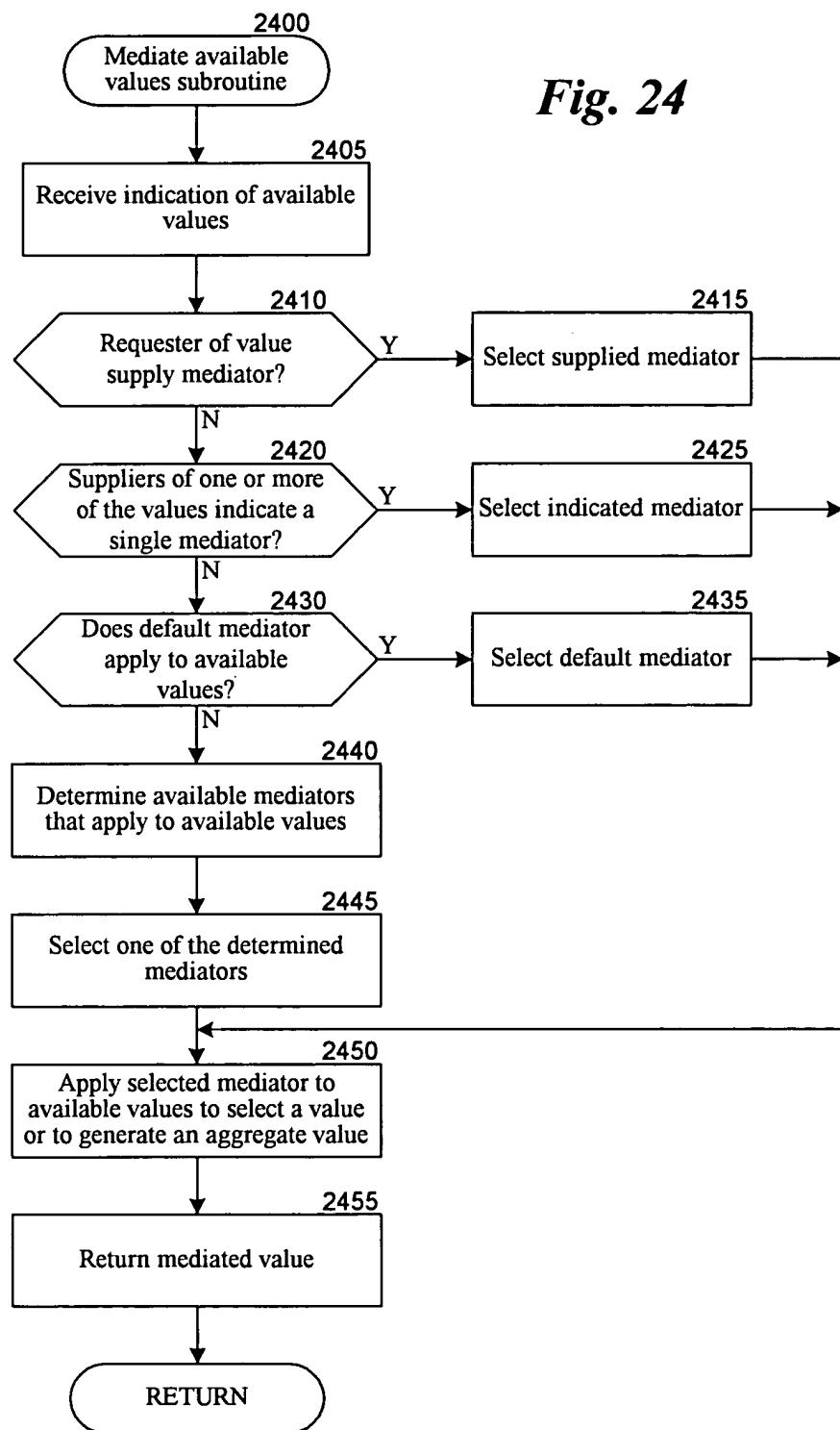


Fig. 25

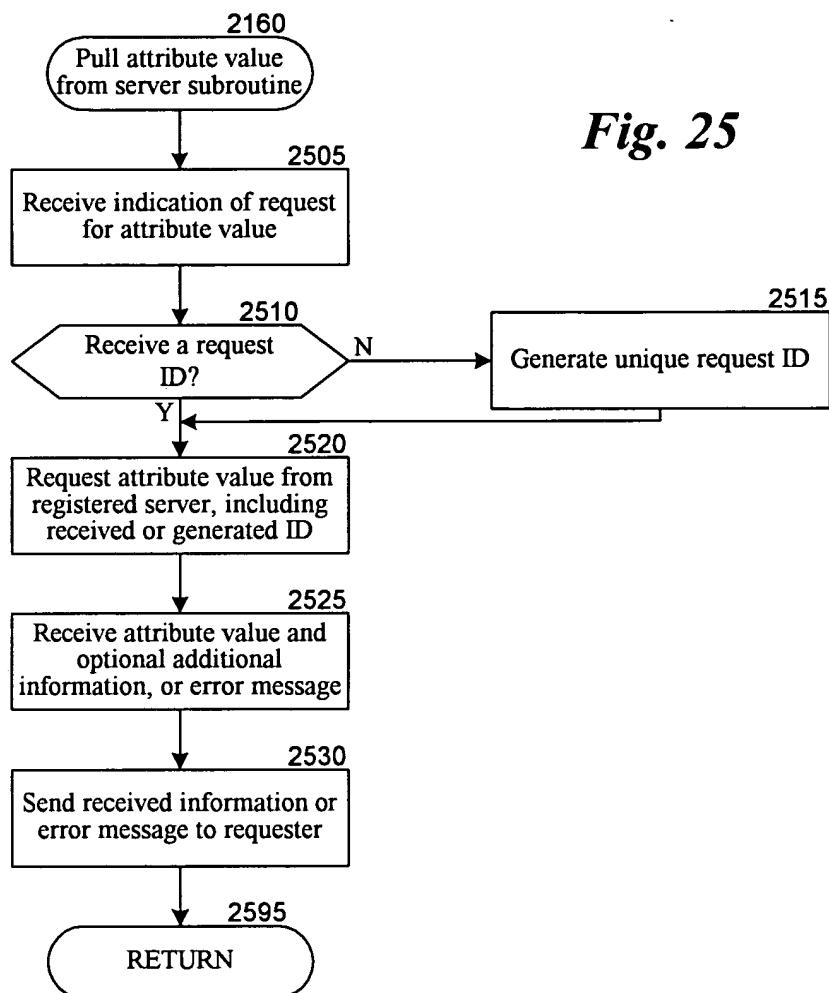


Fig. 26

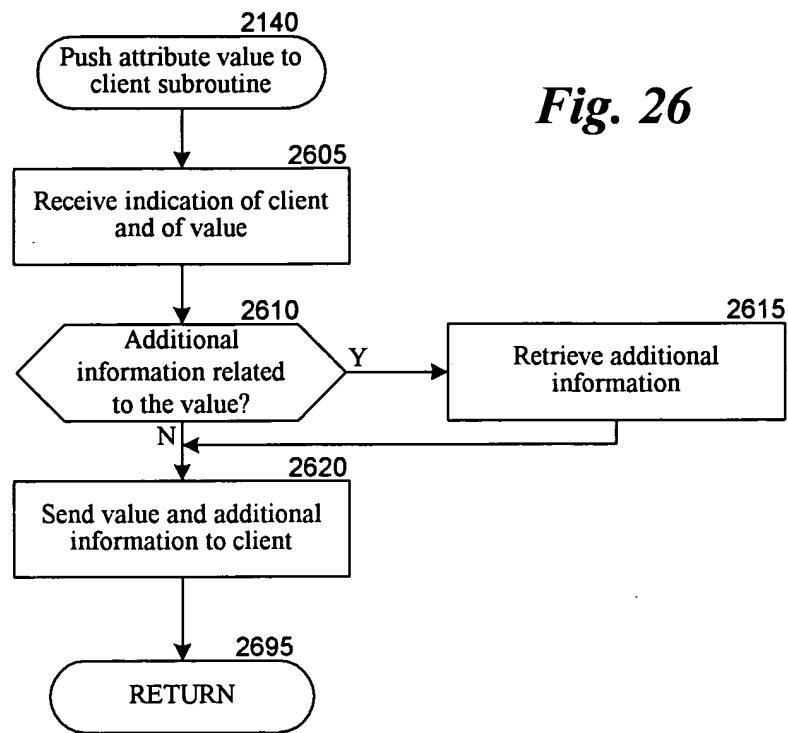


Fig. 27

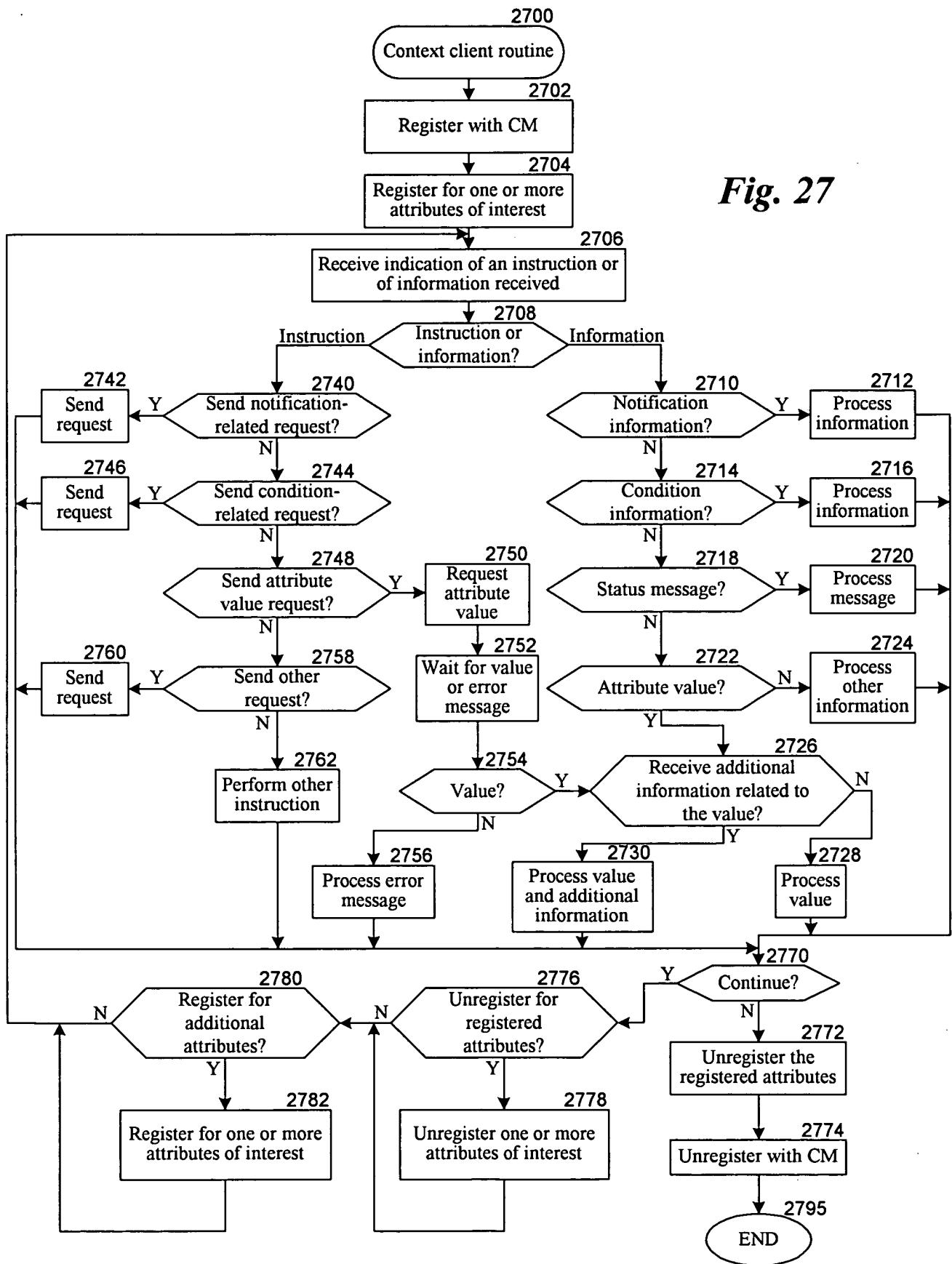


Fig. 28

